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GLOBE STAFF PHOTO / FRANK O'BRIEN

Bill Johnson has his hands full with old computer monitors at the Goodwill warehouse in Roxbury. He's expecting even more after tomorrow.

No dumping: State bans techno-junk

By Cynthia Graber
GLOBE CORRESPONDENT

Donated old computers, TVs add up

They are the remains of a fast-moving electronic age: dozens of old computer monitors piled precariously at the Goodwill warehouse in Roxbury. Discarded disk drives fill a cardboard box big enough to sit in.

"It's a graveyard for computers," said Larry Raff of Goodwill, which received 1,200 old computers

and television sets last year to resell to their clientele or to recycle.

Schools, churches, and charities across Massachusetts are bracing for a lot more donations of obsolete electronics tomorrow as the state begins a first-in-the-nation ban on dumping the equipment in landfills or incinerators. From now on, garbage trucks will no longer haul away computer monitors, TV sets,

or any other devices containing a glass picture tube, forcing owners to find a new way to get rid of them.

To ease the transition, the state Department of Environmental Protection has spent \$200,000 to create a system to reuse or recycle TVs and computers. That includes paying recycling costs for 113 municipalities, as well as six charitable institutions, that already accept

working electronics devices, including Goodwill or Salvation Army sites in Boston, Lowell, Springfield, Pittsfield, and Saugus.

Cathode ray tubes, as picture tubes are called, are the most problematic part of the techno-junk. The DEP estimates that residents dispose of 75,000 tons of electronic equipment in landfills or incinerators annually. Without the disposal ban, that figure is expected to

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State law bans techno-junk from dumps

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reach 300,000 tons by 2005, accounting for about 5 percent of Massachusetts trash.

Faced with this looming avalanche, much of it loaded with toxic metals such as lead, state regulators decided to simply make most electronic trash illegal. Under the new rules, any waste hauler or landfill operator who knowingly violates the ban faces warnings and fines of up to \$25,000.

"We're trying to get this" electronics recycling "program in place before the future tidal wave of electronics hits," said Robin Ingenthron, strategic planner with the DEP.

At Goodwill in Boston, a spokesman estimated that 70 percent of the TVs and computers the charity receives can be resold through its stores. The remaining 30 percent is hauled, at the state's expense, to Global Recycling Technologies in Stoughton to be stripped for the raw materials.

Recycling computers and TVs does more than reduce the state's trash output, however. Cathode ray tubes typically contain about 4 pounds of lead per monitor or television to protect viewers from radiation, while printed circuit boards and batteries contain toxic heavy metals such as cadmium and mercury. In landfills, these pollutants could eventually leach into the ground water; at incinerators, they could be burned and released into the air.

Regulators say their biggest fear is not so much the junk already in the landfills, but what the future holds. Computers become obsolete about every two years, as chips become smaller, faster, and cheaper, resulting in 20 million computers being "retired" nationwide in 1998



GLOBE STAFF PHOTO / FRANK O'BRIEN

Bill Johnson is expecting even more obsolete electronic items at the Goodwill warehouse in Roxbury.

alone, according to a study by the National Safety Councils Environmental Health Center.

Most of this old equipment has not yet made it to the landfill, creating a huge store of junk that could wind up in the trash during spring cleaning.

"Most people I know keep old computers in their attics or basements," said Ted Smith, executive director of the Silicon Valley Toxics Coalition, a nonprofit focusing on computer waste. "People don't want to throw them away."

But they are starting to: The National Safety Council estimates that about 300 million computers,

many from these basement collections, will enter the US waste stream in the next few years.

At the same time, the advent of higher-quality digital televisions is expected to create a rush of obsolete sets around 2006, when current TVs will become useless without a converter box. Many people will buy new digital sets, which could dump a significant portion of the 250 million TVs in the United States into the waste stream.

"Computers have everyone's attention," said Ingenthron of the DEP. "But what caught our attention are the new [Federal Communication Commission] rules for digital televisions. ... We're going to have 5,780,000 televisions to dispose of in Massachusetts. We want to get a running start now to shake the whole system down."

Massachusetts is the first state to implement an electronics disposal ban, though other types of bans have been used by a growing num-

ber of states in the past decade to spur recycling and reuse.

Rather than emphasizing penalties, Massachusetts regulators have tried to make electronics recycling easier. In preparation for the ban that takes effect tomorrow, the DEP ran a test of the new recycling system, in which the state paid to recycle electronics from Goodwill and other charities. According to Ingenthron, the 1999 pilot program cost just \$3 per recycled electronic item, once the value of resold items and the disposal fees avoided were factored. Until now, the largest electronic recycling program, in Minnesota, cost \$19 per item.

This arrangement also benefits the charities, which will receive more saleable computers and televisions. Goodwill's Raff, "The advertisement, directing people to make donations at our centers, is positive. ... We hope to increase donations of other items to our centers as well."

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